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Sheet	1	Of	8

COMPLETE IF KNOWN	
Application Number	10/026, 020
Filing Date	December 27, 2001
First Named Inventor	Ralph Johnson
Art Unit	2828
Examiner Name	Tuan M Nguyen
Attorney Docket Number	V637-02670 US

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No[1]	Document Number Number	Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
TN		US 4445218		04-24-1984	Coldren	
TN		US 4608697		08-26-1986	Coldren	
TN		US 4622672		11-11-1986	Coldren et al.	
TN		US 4829347		05-09-1989	Cheng et al.	
TN		US 4873696		10-10-1989	Coldren et al.	
TN		US 4896325		01-23-1990	Coldren	
TN		US 5045499		09-03-1991	Nishizawa et al.	
TN		US 5082799	A	01-21-1992	Holmstrom et al.	
TN		US 5245622	A	09-14-1993	Jewell et al.	
TN		US 5251225	A	10-05-1993	Eglash et al.	
TN		US 5293392	A	03-08-1994	Shieh et al.	
TN		US 5343487	A	08-30-1994	Scott et al.	
TN		US 5358880	A	10-25-1994	Lebby et al.	
TN		US 5365540	A	11-15-1994	Yamanaka	
TN		US 5392307	A	02-21-1995	Sugiyama et al.	
TN		US 5416044	A	05-16-1995	Chino et al.	
TN		US 5422901	A	06-06-1995	Lebby et al.	
TN		US 5468343	A	11-21-1995	Kitano	
TN		US 5491710	A	02-13-1996	Lo	
TN		US 5513204	A	04-30-1996	Jayaraman	
TN		US 5568504	A	10-22-1996	Kock et al.	
TN		US 5588995	A	12-31-1996	Sheldon	
TN		US 5631472	A	05-20-1997	Cunningham et al.	
TN		US 5693180	A	12-02-1997	Furukawa et al.	
TN		US 5719891	A	02-17-1998	Jewell	
TN		US 5719894	A	02-17-1998	Jewell et al.	

Examiner Signature	Tuan N Nguyen	Date Considered	5-20-03

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COMPLETE IF KNOWN	
Application Number	10/026, 020
Filing Date	December 27, 2001
First Named Inventor	Ralph Johnson
Group Art Unit	2828
Examiner Name	Tuan M Nguyen
Attorney Docket Number	V637-02670 US

TN		US	5719895	A	02-17-1998	Jewell et al.	
TN		US	5729567	A	03-17-1998	Nakagawa	
TN		US	5732103	A	03-24-1998	Ramdani et al.	
TN		US	5747366	A	05-05-1998	Brillouet et al.	
TN		US	5754578	A	05-19-1998	Jayaraman	
TN		US	5757833	A	05-26-1998	Arakawa et al.	
TN		US	5805624	A	09-08-1998	Yang et al.	
TN		US	5809051	A	09-15-1998	Oudar	
TN		US	5815524	A	09-29-1998	Ramdani et al.	
TN		US	5818862	A	10-06-1998	Salet	
TN		US	5825796	A	10-20-1998	Jewell et al.	
TN		US	5835521	A	11-10-1998	Ramdani et al.	
TN		US	5877038	A	03-02-1999	Coldren et al.	
TN		US	5883912	A	03-16-1999	Ramdani et al.	
TN		US	5898722	A	04-27-1999	Ramdani et al.	
TN		US	5903586	A	05-11-1999	Ramdani et al.	
TN		US	5912913	A	06-15-1999	Kondow et al.	
TN		US	5943357	A	08-24-1999	Lebby et al.	
TN		US	5943359	A	08-24-1999	Ramdani et al.	
TN		US	5956363	A	09-21-1999	Lebby et al.	
TN		US	5960018	A	09-28-1999	Jewell et al.	
TN		US	5974073	A	10-26-1999	Canard et al.	
TN		US	5978398	A	11-02-1999	Ramdani et al.	
TN		US	5985683	A	11-16-1999	Jewell	
TN		US	5991326	A	11-23-1999	Yuen et al.	
TN		US	6021147	A	02-01-2000	Jiang et al.	
TN		US	6046065	A	04-04-2000	Goldstein et al.	
TN		US	6049556	A	04-11-2000	Sato	
TN		US	6052398	A	04-18-2000	Brillouet et al.	
TN		US	6057560	A	05-02-2000	Uchida	
TN		US	6061380	A	05-09-2000	Jiang et al.	
TN		US	6061381	A	05-09-2000	Adams et al.	

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COMPLETE IF KNOWN	
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Filing Dat	December 27, 2001
First Named Inventor	Ralph Johnson
Group Art Unit	2828
Examiner Name	Tuan M Nguyen
Attorney Docket Number	V637-02670 US

TN		US	6121068	A	09-19-2000	Ramdani et al.	
TN		US	6127200	A	10-03-2000	Ohiso et al.	
TN		US	6148016	A	11-14-2000	Hegblom et al.	
TN		US	6195485	B1	02-27-2001	Coldren et al.	
TN		US	6207973	B1	03-27-2001	Sato et al.	
TN		US	6252896	B1	06-26-2001	Tan et al.	
TN		US	6314118	B1	11-06-2001	Jayaraman et al.	
TN		US	6341137	B1	01-22-2002	Jayaraman et al.	
TN		US	6359920	B1	03-19-2002	Jewell et al.	
TN		US	6362069	B1	03-26-2002	Forrest et al.	
TN		US	6366597	B1	04-02-2002	Yuen et al.	
TN		US	6372533	B2	04-16-2002	Jayaraman et al.	
TN		US	6424669	B1	07-23-2002	Jiang et al.	
TN		US	6434180	B1	08-13-2002	Cunningham	
TN		US	6542530	B1	04-01-2003	Shieh et al.	
TN		US	2002/0067748	A1	06-06-2002	Coldren et al.	
TN		US	2002/0071464	A1	06-13-2002	Coldren et al.	
TN		US	2002/0075920	A1	06-20-2002	Spruytte et al.	
TN		US	2002/0071471	A1	06-13-2002	Kim et al.	
TN		US	2002/0075929	A1	06-20-2002	Cunningham	
TN		US	2002/0090016	A1	07-11-2002	Coldren et al.	
TN		US	2002/0131462	A1	09-19-2002	Line et al.	
TN		US	2003/0053510	A1	03-20-2003	Yuen et al.	

Examiner Signature	Tuan N Nguyen	Date Considered	5-20-03

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Sheet	4	Of	8

COMPLETE IF KNOWN	
Application Number	10/026, 020
Filing Date	December 27, 2001
First Named Inventor	Ralph Johnson
Group Art Unit	2828
Examiner Name	Tuan M Nguyen
Attorney Docket Number	V637-02670 US

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No[1]	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T[6]
		Country Code[3]	Number[4]	Kind Code[5] (if known)				
TN		EP	0 740 377	A1	10-30-1996	Hewlett-Packard Company		
TN		EP	0 740 377	B	10-30-1996	Hewlett-Packard Company		
TN		EP	0 765 014	A1	03-26-1997	France Telecom		
TN		EP	0 765 014	B1	07-28-1999	France Telecom		
TN		EP	0 822 630	A1	02-04-1998	Hewlett-Packard Company		
TN		EP	0 874 428	A2	10-28-1998	Motorola, Inc.		
TN		EP	0 874 428	A3	11-04-1998	Motorola, Inc.		
TN		EP	0 874 428	B1	15-04-1998	Motorola, Inc.		
TN		EP	1 294 063	A1	03-19-2003	Avalong Photonics AG		
TN		JP	57026492	A	02-12-1982	NEC Corp.		
TN		WO	98/007218	A1	02-19-1998	W.L. Gore & Associates, Inc.		
TN		WO	00/033433	A2	06-08-2000	Arizona Board of Regents		
TN		WO	00/033433	A3	06-08-2000	Arizona Board of Regents		
TN		WO	00/038287	A1	06-29-2000	Honeywell, Inc.		
TN		WO	00/052789	A2	02-29-2000	The Regents of the University of California		
TN		WO	00/052789	A3	02-29-2000	The Regents of the University of California		
TN		WO	00/065700	A2	11-02-2000	Gore Enterprise Holdings, Inc:		
TN		WO	00/065700	A3	11-02-2000	Gore Enterprise Holdings, Inc.		
TN		WO	01/016642	A2	03-08-2001	Agility Communications		
TN		WO	01/016642	A3	03-08-2001	Agility Communications		
TN		WO	01/017076	A2	03-08-2001	The Regents of the University of California		
TN		WO	01/017076	A3	03-08-2001	The Regents of the University of California		

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Sheet 5 Of 8

COMPLETE IF KNOWN	
Application Number	10/026, 020
Filing Date	December 27, 2001
First Named Inventor	Ralph Johnson
Group Art Unit	2828
Examiner Name	Tuan M Nguyen
Attorney Docket Number	V637-02670 US

TN		WO	01/018919	A1	03-15-2001	The Regents of the University of California		
TN		WO	01/024328	A2	04-05-2001	Agility Communications		
TN		WO	01/024328	A3	04-05-2001	Agility Communications		
TN		WO	01/033677	A2	05-10-2001	Arizona Board of Regents		
TN		WO	01/033677	A3	05-10-2001	Arizona Board of Regents		
TN		WO	01/084682	A2	11-08-2001	Agility Communications, Inc.		
TN		WO	01/093387	A2	12-06-2001	Sandia Corporation		
TN		WO	01/093387	A3	12-06-2001	Sandia Corporation		
TN		WO	01/095444	A2	12-13-2001	Agility Communications, Inc.		
TN		WO	01/098756	A2	12-27-2001	The Regents of the University of California		
TN		WO	02/003515	A2	01-10-2002	Agility Communications, Inc.		
TN		WO	02/017445	A1	02-28-2002	The Regents of the University of California		
TN		WO	02/084829	A1	10-24-2002	Cielo Communications, Inc.		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T[2]
TN		ALMUNEAU, G., et al., "Accurate control of Sb composition in AlGaAsSb alloys on InP substrates by molecular beam epitaxy", article, Journal of Crystal Growth, Vol 208, 05-06-1999, pgs 113-6.	
TN		ALMUNEAU, G., et al., "Improved electrical and thermal properties of InP-AlGaAsSb Bragg mirrors for long-wavelength vertical-cavity lasers", article, IEEE Photonics Technology Letters, Vo. 12, No 10, Oct 2000, pgs 1322-4,	
TN		ALMUNEAU, G., et al., "Molecular beam epitaxial growth of monolithic 1.55 µm vertical cavity surface emitting lasers with AlGaAsSb/AlAsSb Bragg mirrors", article, Journal of Vacuum Science Technology, Vol 8, No 3, May/Jun 2000, pgs 1601-4.	
TN		BLACK, K., et al. "Double-fused 1.5 µm vertical cavity lasers with record high T_o of 132K at room temperature", article, Electronics Letters, Vol 34, No 20, 10-01-1998, pgs 1947-9.	
TN		BLUM, O., et al., "Electrical and optical characteristics of AlAsSb/BaAsSb distributed Bragg reflectors for surface emitting lasers", article, Applied Physics Letters, Vol 67, No 22, 11-27-1995, pgs 3233-5.	
TN		BLUM, O., et al., "Highly reflective, long wavelength AlAsSb/GaAsSb distributed Bragg reflector grown by molecular beam epitaxy on InP substrates", article, Applied Physics Letters, Vo. 66, No 3, 01-16-1995, pgs 329-31.	
TN		BOUCART, J., et al., "1mW CW-RT monolithic VCSEL at 1.55 µm", article, IEEE Photonic Technology Letters, Vol 11, No 6, Jun 1999, pgs 629-31	

Examiner Signature	Tuan Nguyen	Date Considered	5-20-03

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Application Number	10/026, 020
Filing Date	December 27, 2001
First Named Inventor	Ralph Johnson
Group Art Unit	2828
Examiner Name	Tuan M Nguyen
Attorney Docket Number	V637-02670 US

TN		CAMPBELL, J., et al., "Quantum dot resonant cavity photodiode with operation near 1.3 μm wavelength", article, Electronics Letters, Vol 33, No 15, 07-17-1997,pgs 1337-9.	
TN		CHANG, C., et al., "Parasitics and design considerations on oxide-implant VCSELs", article, IEEE Photonics Technology Letters, Vol 13, No 12, Dec 2001, pgs 1274-6.	
TN		CHOQUETTE, K., et al., "Room temperature continuous wave InGaAsN quantum well vertical-cavity lasers emitting at 1.3 μm", article, Electronics Letters, Vol 36, No. 16, 08-03-2000, pgs 1388-90.	
TN		DOWD, P., et al., "Long wavelength (1.3 and 1.5 μm) photoluminescence from InGaAs/GaPAsSb quantum wells grown on GaAs", article, Applied Physics Letters, Vol 75, No 9, 08-30-1999, pgs 1267-9.	
TN		DUDLEY, J., et al., "Water fused long wavelength vertical cavity lasers", conference proceedings, LEOS '93 Conference Proceedings. IEEE Lasers and Electro-Optics Society 1993 Annual Meeting, Nov 15/8, 1993, pgs 560-1.	
TN		GOURLEY, F., et al., "Epitaxial semiconductor optical interference devices", invited paper, SPIE, Vol 792, 1987, pgs 178-189.	
TN		GUDEN, M., et al., "Material parameters of quaternary III-V semiconductors for multiplayer mirrors at 1. 55 μm wavelength", article, Modeling Simulation Material Science Engineering, Vol 4 1966, pgs 349-57.	
TN		GUO, C., et al., "Theoretical investigation of strained InGaAs/GaPAsSb type-II quantum wells on GaAs for long wavelength (1.3 um) optoelectronic devices", post-conference paper, Dept of Electrical Engineering & Center for Solid State Electronics Research, ASU, Tempe, AZ, Apr 1999, pgs 30-1.	
TN		GUY, D., et al., "Theory of an electro-optic modulator based on quantum wells in a semiconductor étalon", conference paper, Quantum Well and Superlattice Physics, Mar 23/4, 1987, pgs 189-96.	
TN		HALL, E., et al., "Electrically-pumped, single-epitaxial VCSELs at 1.55 μm with Sb-based mirrors", article, Electronics Letters, Vol 35, No 16, 08-05-1999, pgs 1-2.	
TN		HALL, E., et al., "Increased lateral oxidation rates of AlInAs on InP using short-period superlattices", article, Applied Physics Letters, Vol 29, No 9, 01-08-2002, pgs 1100-4.	
TN		HALL, E., et al., "Selectively etched undercut apertures in AlAsSb-based VCSELs", article, IEEE Photonics Technology Letters, Vol 13, No 2, Feb 2001, pgs 97-9.	
TN		HEGBLOM, E., et al., "Small efficient vertical cavity lasers with tapered oxide apertures", article, Electronics Letters, Vol 34, No 9, 04-30-1998, pgs 895-6.	
TN		HEROUX, J., et al., "Optical investigation of InGaAsN/GaAs strained multi-quantum wells", 20th North American Conference on Molecular Beam Epitaxy, Oct 1-3, 2001, pg 2.	
TN		HONG, Y., et al., "Improving Ga(In)Nas properties by migration-enhanced epitaxy and superlattices", 43rd 2001 Electronic Material Conference, Session G, Paper G10, 06-27-2001.	
TN		HONG, Y., et al., "Growth of GaInNAs quaternaries using a digital allow technique", conference paper, Journal of Vacuum Science and Technology B: Microelectronics and Nanometer Structures, Oct 01/3, 2001, pgs 1163-6.	
TN		HUFFAKER, D., et al., "1.15 μm wavelength oxide-confined quantum-dot vertical-cavity surface-emitting laser", article, IEEE Photonics Technology Letters, Vol 10, No 2, Feb 1998, pgs 185-7.	
TN		HUFFAKER, D., et al., "1.3 μm room-temperature GaAs-based quantum-dot laser", Applied Physics Letters, Vol 73, No 18, 11-02-1998, pgs 2564-6.	
TN		IGA, K., "Semiconductor laser in the 21st century", California conference papers, Photodetectors: Materials and Devices VI, Jan 22/4, 2001, pgs xi-xxv.	
TN		JAYARAMAN, V., et al., "Uniform threshold current, continuous-wave, singlemode 1300 nm vertical cavity lasers from 0 to 70°C", article, Electronics Letters, Vol 34, No 14, 07-09-1998, pgs 1405-7.	

Examiner Signature	Tuan N Nguyen	Date Considered	5-20-03

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COMPLETE IF KNOWN	
Application Number	10/026, 020
Filing Date	December 27, 2001
First Named Inventor	Ralph Johnson
Group Art Unit	2828
Examiner Name	Tuan M Nguyen
Attorney Docket Number	V637-02670 US

TN		KIM, J., et al., "Epitaxially-stacked multiple-active-region 1.55 μm lasers for increased differential efficiency", article, Applied Physics Letters, Vol 74, No 22, 05-31-1999, pgs 3251-3.	
TN		KIM, J., et al., "Room-temperature, electrically-pumped multiple-active-region VCSELs with high differential efficiency at 1.55 μm", article, Electronics Letters, Vol 35, No 13, 06-24-1999, pgs 1-2.	
TN		KOTAKI, Y., et al., "GaInAsP/InP surface emitting layser with two active layers", article, Extended Abstracts of the 16th (1984 International) conference on Solid State Devices and Materials, pgs 133-6.	
TN		KOYAMA, F., et al., "Room temperature CWS operation of GaAs vertical cavity surface emitting laser", article, The Transactions of the IEICE, Vol E71, No 11, Nov 1988, pgs 1089-90.	
TN		LARSON, J., et al., "GaInNAs-GaAs long-wavelength vertical-cavity surface-emitting laser diodes", article, IEEE Photonics Technology Letters, Vol 10, No 2, Feb 1998, pgs 188-90.	
TN		LEE, Y., et al., "Physics and nonlinear device applications of bulk and multiple quantum well GaAs", invited paper, SPIE Vol 792 Quantum Well and Superlattice Physics (1987), pgs 128-133.	
TN		LI, J., et al., "Persistent photoconductivity in $Ga_{1-x}In_xN_yAs_{1-y}$", article, Applied Physics Letters, Vol 75, No 13, 09-27-1999, pgs 1899-1901.	
TN		MIRIN, R., et al., "1.3 μm photoluminescence from InGaAs quantum dots on GaAs", article, Applied Physics Letter 67 (25), 12-18-1995, pgs 3795-7.	
TN		NAKAGAWA, S., et al., "1.55 μm InP-lattice-matched VCSELs with AlGaAsSb-AlAsSb DBRs", article, IEEE Journal on Selected Topics in Quantum Electronics, Vol 7, No 2, Mar/Apr 2001, pgs 224-30.	
TN		NAKAHARA, K., et al., "1.3 μm continuous-wave lasing operation in GaInNAs quantum-well lasers", article, IEEE Photonics Technology Letters, Vol 10, No 4, Apr 1998, pgs 487-8.	
TN		NAONE, R., et al., "Tapered air apertures for thermally robust VCL structures", article, IEEE Photonics Technology Letters, Vol 11, No 11, Nov 1999, pgs 1339-41.	
TN		NELSON, D., et al., "Band nonparabolicity effects in semiconductor quantum wells", article, Rapid Communications, Vol 35, No 17, 02-15-1987, pgs 7770-7773.	
TN		OHNOKI, N., et al., "Superlattice AlAs/AlInAs-oxide current aperture for long wavelength InP-based vertical-cavity surface-emitting laser structure", article, Applied Physics Letters, Vol 73, No 22, 11-30-1998, pgs 3262-4.	
TN		ORTSIEFER, M., et al., "Submiliamp long-wavelength InP-based vertical-cavity surface-emitting laser with stable linear polarization", article, Electronics Letters, Vol 36, No 13, 06-22-2000, pgs 1124-6.	
TN		PETERS, M., et al., "Realization and modeling of a pseudomorphic ($GaAs_{1-x}Sb_x$-In_y $Ga_{1-y}As$)/GaAs bilayer-quantum well", article, Applied Physics Letter 67 (18), 10-30-1995, pgs 263941.	
TN		PETERS, M., et al., "Band-gap engineered digital alloy interfaces for lower resistance vertical-cavity surface-emitting lasers, article, Applied Physics Letters, Vol 63, No. 25, Dec 1993, pgs 3411-3.	
TN		PIPREK, J., et al., "Thermal comparison of long-wavelength vertical-cavity surface-emitting laser diodes", Electronics Letters, 05-26-1994, Vol 30, No 11, pgs 866-868.	
TN		PIPREK, J., et al., "Minimum temperature sensitivity of 1.55 μm vertical-cavity lasers at –30 nm gain offset", article, Applied Physics Letters, Vol 72, No 15, 04-13-1998, pgs 1814-6.	
TN		RAJA, M., et al., "Novel wavelength-resonant optoelectronic structure and its application to surface-emitting semiconductor lasers", article, Electronics Letters, 09-01-1988, Vol 24, No 18, pgs 1140-1142.	
TN		SCOTT, J., et al., "High efficiency submilliamp vertical cavity lasers with intracavity contacts", article, IEEE Photonics Technology Letters, Vol 6, No 6, Jun 1994, pgs 678-80.	

Examiner Signature	Tuan Nguyen	Date Considered	5-20-03

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COMPLETE IF KNOWN	
Application Number	10/026, 020
Filing Date	December 27, 2001
First Named Inventor	Ralph Johnson
Group Art Unit	2828
Examiner Name	Tuan M Nguyen
Attorney Docket Number	V637-02670 US

TN		SEKIGUCHI, S., et al., "Long wavelength GaInAsP/InP laser with n-n contacts using AlAs/InP hole injecting tunnel junction", article, Japanese Journal of Applied Physics, Part 2, No 4B, 04-15-1999, pgs L443-5.	
TN		STARCK, C., "Long wavelength VCSEL with tunnel junction and metamorphic AlAs/GaAs conductive DBR", article, Physics Review B, Vol 39, No 3, 01-15-1989, pgs 1871-83.	
TN		SUGIMOTO, M., et al., "Surface emitting devices with distribut4ed Bragg reflectors grown by highly precise molecular beam epitaxy", article, Journal of Crystal Growth, Vol 127, 1993, pgs 1-4.	
TN		UCHIDA, T., et al., "CBE grown 1.5 μm GaInAsP-InP surface emitting lasers", article, IEEE Journal of Quantum Electronics, Vol 29, No 6, Jun 1993, pgs 1975-80.	
TN		VAN DE WALLE, C. "Band lineups and deformation potentials in the model-solid theory", article, Physical Review B, Vol 39, No 3, 01-15-1989, pgs 1871-83.	
TN		WHITAKER, T., "Long wavelengths VCSELs move closer to reality", article, Compound Semiconductor, July 2000, pgs 65-7.	
TN		YAMADA, M., et al., "Low-threshold lasing at 1.3 μm from GaAsSb quantum wells directly grown on GaAs substrates", article, IEEE, 0-7803-4947, 04/1998, pgs 149-50.	
TN		YAMADA, M., et al., "Room temperature low-threshold CW operation of 1.23 μm GaAsSb VCSELs on GaAs substrates", article, Electronics Letters, 03-30-2000, Vol 36, No 7, pgs 637-638.	
TN		YANG, X., et al., "High performance 1.3 μm InGaAsN:Sb/GaAs quantum well lasers grown by molecular beam epitaxy", journal article, Journal of Vacuum Science and Technology B Microelectronics and Nanometer Structures, Vo. 18, No 3, Oct 1999, pgs 1484-7.	
TN		YANG, X., et al., "InGaAsNSb/GaAs quantum wells for 1.55 μm lasers grown by molecular-beam epitaxy", article, Applied Physics Letters, Vol 78, No 26, pgs 4068-70.	
TN		YANO, M., et al., "Time-resolved reflection high energy electron diffraction analysis for atomic layer depositions of GaSb by molecular beam epitaxy", article, Journal of Crystal Growth, Vol 146, 1995, pgs 349-53.	
TN		YUEN, W., et al., "High-performance 1.6 μm single-epitaxy top-emitting VCSEL", article, Electronics Letters, Vol 36, No 13, 06-22-2000, pgs 1121-3.	

Examiner Signature	Tuan N Nguyen	Date Considered	5-20-03

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